

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patentee: Tetsujiro Kondo

Application to
Reissue Patent No.: 5,517,588

Issued: May 14, 1996

For: DIGITAL DATA CONVERSION EQUIPMENT AND A
METHOD FOR THE SAME

DECLARATION OF TETSUJIRO KONDO

As a below-named inventor, I hereby declare that:

1. My residence, post office address and citizenship are as stated below next to my name.
2. I verily believe myself to be the original, first inventor of the invention described and claimed in Letters Patent No. 5,517,588 and in the specification filed herewith for which I solicit a patent.
3. I hereby state that I have reviewed and understand the contents of the aforementioned specification, including the claims.
4. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).
5. I hereby claim foreign priority benefits under Title 35, United States Code § 119 of Application Number 04-155719 filed in Japan on May 22, 1992 and state that no other application for patent or inventor's certificate or any PCT international application was filed by me on the same subject matter prior to May 22, 1992.
6. I do not know and do not believe that the invention was ever known or used in the United States of America before my invention thereof.

7. I verily believe the original Letters Patent to be wholly or partly inoperative or invalid by reason of my claiming more or less than I had right to claim in the patent by at least failing to claim an apparatus including:

A.

A digital signal conversion apparatus for converting a first digital image signal to a second digital image signal having a high resolution component, comprising:

a memory for storing class data for respective classes at addresses corresponding to said respective classes, said class data obtained on the basis of at least a digital image signal having said high resolution component;

means for receiving said first digital image signal including pixel data representing pixel values;

means for clustering a plurality of pixel data of said first digital image signal adjacent to a pixel data of said second digital image signal to produce a class, a bit number of said pixel data of said first digital image signal being reduced;

means for retrieving said class data from one of said addresses of said memory corresponding to said class of said first digital image signal; and

means for generating all of pixel data, representing pixel values of said second digital image signal, in the same manner in accordance with a common algorithm based upon at least said retrieved class data in which a position of at least one of said clustered pixel data is spatially located at the same position of at least one of said generated data.

B.

A digital signal data conversion method for converting a first digital image signal to a second digital image signal having a high resolution component, comprising the steps of:

storing class data for respective classes at addresses in a memory corresponding to said respective classes, said class data obtained on the basis of at least a digital image signal having said high resolution component;

receiving said first digital image signal including pixel data representing pixel values;

clustering a plurality of pixel data of said first digital image signal adjacent to a pixel data of said second digital image signal to produce a class, a bit number of said pixel data of said first digital image signal being reduced;

retrieving said class data from one of said addresses of said memory corresponding to said class of said first digital video signal; and

generating all of pixel data, representing pixel values of said second digital image signal, in the same manner in accordance with a common algorithm based upon at least said retrieved class data in which a position of at least one of said clustered pixel data is spatially located at the same position of at least one of said generated data.

C.

A digital signal conversion apparatus for converting a digital video signal admitting of a first standard into a digital video signal admitting of a second standard, a first resolution of said digital video signal admitting of said first standard being lower than a second resolution of said digital video signal admitting of said second standard, comprising:

a memory for storing class data for respective classes at addresses corresponding to said respective classes, said class data obtained on the basis of at least a digital video signal admitting of said second standard having said second resolution;

means for receiving an input digital video signal including pixel data and admitting of said first standard;

means for clustering a plurality of pixel data of said input digital video signal adjacent to a pixel data of a digital video signal admitting of said second standard to produce a class, a bit number of said pixel data of said input digital video signal being reduced;

means for retrieving said class data from one of said addresses of said memory corresponding to said class of said input digital video signal admitting of said first standard;

means for generating all of pixel data, representing pixel values of said digital video signal admitting of said second standard, in the same manner in accordance with a common algorithm based upon at least said class data which has been retrieved in which a position of at least one of said clustered pixel data of said digital video signal admitting of said first standard is spatially located at the same position of at least one of said generated data.

D.

A digital signal conversion apparatus for converting a standard definition digital video signal to a high definition digital video signal, comprising:

a memory for storing class data for respective classes at addresses corresponding to said respective classes, said class data obtained on the basis of at least a digital video signal having a high resolution component;

means for receiving said standard definition digital video signal having pixel data representing pixel values;

means for clustering a plurality of pixel data of said standard definition digital video signal adjacent to a pixel data of said high definition digital video signal to produce a class, a bit number of said pixel data of said standard definition digital video signal being reduced;

means for retrieving said class data from one of said addresses of said memory corresponding to said class of said standard definition digital video signal; and

means for generating all of pixel data, representing pixel values of said high definition digital video signal, in the same manner in accordance with a common algorithm based upon at least said retrieved class data in which a position of at least one of said clustered pixel data of said standard definition digital video signal is spatially located at the same position of at least one of said generated data.

E.

A digital signal conversion method, comprising the steps of:

storing class data for respective classes at addresses in a memory corresponding to said respective classes, said class data obtained on the basis of at least a digital video signal having a high resolution component;

receiving a standard definition digital video signal having pixel data representing pixel values;

clustering a plurality of pixel data of said standard definition digital video signal adjacent to a pixel data of a high definition digital video signal to produce a class, a bit number of said pixel data of said standard definition digital video signal being reduced;

retrieving said stored class data from one of said addresses corresponding to said class of said standard definition digital video signal; and

generating all of pixel data, representing pixel values of said high definition digital video signal, in the same manner in accordance with a common algorithm based upon at least said retrieved class data in which a position of at least one of said clustered pixel data of said standard definition digital video signal is spatially located at the same position of at least one of said generated data.

F.

A digital data conversion apparatus for converting a first digital image signal to a second digital image signal having a high resolution component, comprising:

a memory for storing class data for respective classes at addresses corresponding to said respective classes, said class data obtained on the basis of at least digital image data having said high resolution component;

means for receiving said first digital image signal including pixel data representing pixel values;

means for clustering a plurality of pixel data of said first digital image signal adjacent to a plurality of pixel data of said second digital image signal to produce a class, a bit number of said pixel data of said first digital image signal being reduced and said class being used to retrieve a class data to generate a plurality of pixel data representing pixel values of said second digital image signal;

means for retrieving said class data from addresses of said memory corresponding to said class of said first digital image signal; and

means for generating all of said pixel data, representing pixel values of said second digital image signal, in the same manner in accordance with a common algorithm based upon at least said retrieved class data in which a position of at least one of said clustered pixel data is spatially located at the same position of at least one of said generated data.

G.

A digital data conversion method for converting a first digital image signal to a second digital image signal having a high resolution component, comprising the steps of:

storing class data for respective classes at addresses in a memory corresponding to said respective classes, said class data obtained on the basis of at least digital image data having said high resolution component;

receiving said first digital image signal including pixel data representing pixel values;

clustering a plurality of pixel data of said first digital image signal adjacent to a plurality of pixel data of said second digital image signal to produce a class, a bit number of said pixel data of said first digital image signal being reduced and said class being used to retrieve a class data to generate a plurality of pixel data representing pixel values of said second digital image signal;

retrieving said class data from addresses of said memory corresponding to said class of said first digital image signal; and

generating all of said pixel data, representing pixel values of said second digital image signal, in the same manner in accordance with a common algorithm based upon said retrieved class data in which a position of at least one of said clustered pixel data is spatially located at the same position of at least one of said generated data.

8. I did not discover that the claims of the original patent claimed more or less than I had a right to claim until after the original patent was issued.

9. No claim was previously presented during prosecution of the above referenced issued patent that particularly claimed the apparatus described in paragraph 7.

10. The error noted above, as well as any other errors to be corrected herein arose without any deceptive intention on my part.

11. New claims 15-38 submitted with this application particularly point out the subject matter which I considered my invention and round out the scope of protection to which I am entitled. By the omission of such claims the original patent claims less than I had a right to claim.

I hereby appoint William S. Frommer, Registration No. 25,506, of Frommer Lawrence & Haug LLP or their duly appointed associate, my attorneys, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to file continuation and divisional applications thereof, to receive the Patent, and to transact all business in the Patent and Trademark Office and in the Courts in connection therewith, and specify that all communications about the application are to be directed to the following address:

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Direct all telephone calls to: (212) 588-0800 to the attention of William S. Frommer, Esq.

Wherefore I pray that I may be allowed to surrender the Letters Patent No. 5,517,588 granted May 14, 1996, whereof Sony corporation, on whose behalf and with whose assent this application is made, is the sole owner, by Assignment, and that Letters Patent may be reissued to Sony Corporation for the same invention upon the attached specification.

I, the undersigned applicant, further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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